

CHAPTER 7

Food Industry Standards and Regulations

Globalization of processed foods markets has come about through consumer preferences, technical change, and other factors detailed throughout this report. Companies have responded to consumer demands, and there has been a scramble for standards bodies to catch up with commerce and impose some rules on the marketplace, as seen in chapter 6 on trade agreements. This chapter gives only tangential mention to environmental standards, which are dealt with in chapter 8.

Demand for strict food standards in the United States is intensifying. The GATT Uruguay Round Agreement reduces trade protections and tightens rules for technical standards and investment barriers. The diminution of other forms of protection will raise the profile of product and process standards for both the free trade advocates and for those who demand protection. WTO members have stronger prospects for resolving disputes arising over product and process standards with ratification of the WTO than they did in the GATT arena prior to implementation of the Uruguay Round Agreement.

The motivations for standards are not always transparent or legitimate. To provide a brief illustration before proceeding to a more thorough discussion, the Mexican government in November 1994 began to update its food safety standards. Among them was a requirement that fluid milk could not be offered for sale more than 48 hours after pasteurization. U.S. milk bottlers in California, Arizona, New Mexico, and Texas, who were already selling fluid milk in Mexico, considered the short shelf life regulations as protectionist because they knew that continuously cooled milk has at least a 10-day shelf life (Journal of Commerce, 1995). Devaluation of the Mexican peso diminished the U.S. milk shippers' commercial opportunity in the short run. But, they objected under North American Free Trade Agreement (NAFTA)

rules similar to WTO rules that require that regulations have a scientific basis that is no more stringent than required to meet legitimate objectives.

The following section describes the various aspects of product and process standards, including product definitions, environmental standards, labor standards, and labeling. It covers the motivation for standards, i.e., to ensure safe, wholesome food; to protect the competitiveness of domestic industry (production, processing, manufacturing); and to protect domestic labor and the environment by removing a foreign competitor's cost advantage gained through lower standards. Three public policy questions become evident and are raised as areas for fruitful public policy research: (1) How prevalent is the use of technical food standards and regulations as trade barriers? (2) How can the tension between harmonization of standards and mutual recognition of standards be balanced? (3) How important are public policies in the private decisions of companies choosing to enter a foreign market?

Product and Process Standards and Regulations

In a general sense, product and process standards fall within the broad category of competition policy, other examples of which include tied trade and marketing restrictions. The World Trade Organization (WTO), recognizes technical regulations, which are mandatory measures enforceable by law, and technical standards, which are voluntary measures. Governments and nongovernmental organizations such as industry associations can be involved in the development of standards, depending on the institutional relationships in a particular country. Both technical standards and regulations specify that a product must have certain characteristics or that certain processes must be followed in the manufacture of a product in order to qualify for import and sale. A product or process may be covered by standards in labeling laws, packaging laws, standards of identity, certification and inspection rules, and food safety standards.

The WTO defines technical regulations as: “[a] document which lays down product characteristics or their related processes and

production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method" (General Agreement on Tarriffs and Trade, 1994).

The WTO definition of a standard is "[a] document approved by a recognized body, that provides for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory" (GATT, 1994).

A typical example of product standards is a product definition. That is, products are required to be what they claim to be. For example, peanut butter has to be made from peanuts. Other examples include the Italian pasta purity laws and the Germany beer purity law, which strictly regulated the permissible ingredients in these products. In former times in Germany, beer could have only prescribed ingredients, and any other ingredients such as preservatives would make it illegal to import and sell such a product. The beer purity law is now mostly voided as far as trade is concerned, but it stood as a product standard for more than 450 years.

Examples of process standards include a ban on goods made with prison labor or a law against the importation of dairy products made of milk produced from cows treated with recombinant bovine somatotropin (rbST). At the time of writing, U.S. dairy products are not banned from any foreign market on the basis of the use of rbST in the United States. If a ban existed, this would be an example of a process standard. Some environmental standards are process standards. That is, there is no objection to the environmental effect of the product itself. The objection is to the exporter's competitive advantage that the lower environmental standards create.

Effects of Standards and Regulations on Processed Food Firms

In the broadest terms, firms begin with the objective to maximize profits. If a firm decides to enter a foreign market, one might imagine that the decision to trade or invest—whether through new production facilities, acquisition of affiliates in the target market, licensing, or joint venture—is the result of a calculation of the relative costs of product placement in the foreign market. The cost of product placement is a more robust concept than transportation cost because the former is a more encompassing term than transportation costs, transactions costs, or even delivery costs. It involves many other costs including the costs of compliance with technical regulations on products and processes in the target market.

There are many considerations arising from product and process standards that affect a firm's decision to export or invest in foreign production. For instance, a firm can use any slack domestic production capacity to serve a foreign market. Often a firm has more and better information about production and marketing in its home market than in a foreign market. In a foreign market there may be a question of transparency, e.g., product and process standards may not be readily available or may change frequently or without notice. Some firms are quite protective of proprietary technology and formulations that a foreign government may require to be disclosed for safety reasons in order to be certified as eligible for import. A country may specify a minimum share of local content, which encourages domestic processing and the use of domestic materials in production.

Difficulty in meeting product and process standards for imports can lead a firm to buy manufacturing facilities in the foreign market it wishes to enter rather than attempt to export into that market. In a 1994 survey of multinational firms' decisions on export versus foreign direct investment (Vaughan, et al., 1994), economies of scale and delivery costs relative to the value of the product were cited most frequently as decisive factors, but respondents also

mentioned the following considerations that are included under product and process standards: inspection, certification, and risk.

Effects of Standards and Regulations on Farmers

Even though most of the burden of compliance costs falls on food manufacturers, farmers in some cases are affected. The production agriculture sector can be affected by product and process standards in at least two ways. First, the utilization of domestic agricultural products in processed foods is an important component of the demand for these products.

Second, farmers are concerned with the compliance costs of process standards because they increase production costs—for example, a ban on growth-promoting hormones in beef production. However, the existence of high standards may result in greater consumption of U.S. food products if the standards help to create a perception of higher quality in the final products. The latter effect may or may not fully offset the higher costs of complying with standards.

Effects of Standards and Regulations on Consumers

Obviously prices, quality, and safety of food are all very important to consumers. As a recent example of consumers' interest in food regulations, the Nutrition Labeling and Education Act of 1990 (NLEA) became effective on May 8, 1993, for regulation of health claims and on May 8, 1994, for regulation of nutrition labeling and nutrient content claims. The strict rules imposed by the NLEA may impose a substantial burden on foreign firms selling into the U.S. market that they may not have to meet in any other market. Aside from nutrition labeling, consumers want adequate standards to ensure food safety and quality, and, for a given quality, they want to pay as little as possible. Consumer interests in food safety and food prices are not always congruent.

Rationale for Product and Process Standards

There are many motivations for the imposition of standards, leading to considerable ambiguity. The first motivation in this discussion can be thought of as overall national interests, including sovereignty, welfare, and distribution. Sovereignty arose as a concern during the Congressional debates on the GATT Uruguay Round and North American Free Trade Agreement. Some groups believed that U.S. laws, including standards for foods, should be outside the influence of pressure from other nations. Distributional issues include the effect of a new technology on farm structure. Welfare concerns include consumer protection and information issues such as labeling and food safety. Within the food safety category, sanitary and phytosanitary standards (SPS) dealing with processed foods include pesticide residues and microbial contamination.

A second motivation for product and process standards is food safety concerns arising with new technologies. This raises the question of the degree to which the technologies change the essential character of the product. In the case of recombinant bovine somatotropin (rbST), studies by the U.S. Food and Drug Administration (FDA) have found that the milk from untreated cows is identical to milk from cows treated with rbST. As a result, FDA has sharply restricted the wording that dairy foods marketers can use in labeling the product with respect to the use of rbST. The label cannot claim or imply safety or nutritional advantages for the non-rbST product. In the case of hormone implants in U.S. beef animals, a longstanding trade dispute has existed between the United States and the European Union, which bans the use of hormone implants that have withstood rigorous tests of safety, quality, and efficacy in the United States. In this instance, the EU does not claim that the meat is unsafe for human consumption, but objects to the process by which the beef was produced. Food irradiation presents another example of a technology that has generated some controversy based mainly on process. If a product with exactly the same food safety characteristics as an irradiated food could be produced without being irradiated, there would be no objection to the product.

A third motivation for standards is to facilitate desirable commercial developments. For instance, standards of identity, also known as product definitions, are defined by the FDA primarily for food safety purposes. Standards also facilitate trade by product description, reduce transactions costs, and improve market efficiency. Other standards serve commercial concerns including protection of geographical designations and brand names, as discussed in chapter 6.

Fourth and finally, product and process standards can be motivated by trade protectionism. As discussed in chapter 6, the Uruguay Round strengthened rules against the use of product and process standards as instruments of trade protection in the Agreement on Sanitary and Phytosanitary Measures and in the Agreement on Technical Barriers to Trade. In brief, the Uruguay Round outcomes insisted that standards be based on scientific evidence and appropriate risk analysis, that standards be transparent to other members, that standards be harmonized through international institutions where possible, and that members' standards, even if different from each other, be considered equivalent if the exporting country can demonstrate that the importing country's legitimate objectives are achieved by the exporting country's standard.

Out of a desire to protect their citizens, countries may inadvertently create an unjustifiable trade barrier. The Delaney Clause, which mandates zero tolerance for residues of pesticides that contain known carcinogens, is an example of a standard that could be challenged for not being based on appropriate risk assessment or appropriate science. For some known carcinogens, technological precision has advanced to the point that scientists can detect substances at harmless levels, called the "no observable effect level" (NOEL).

Institutions

Product and process standards are not all governed by a single global body of rules. There are GATT rules, GATT precedents (case law), the Codex Alimentarius Commission, industry standards, and national institutions and laws whose jurisdictions

overlap and contradict each other. The common functions of standards institutions are establishment of the standards, harmonization of standards across national and other administrative jurisdictions, enforcement of standards, and arbitration of disputes when members disagree on the application of standards. Of all the institutions performing these functions, the WTO has the greatest scope.

The WTO, as was also true for GATT before it, does not permit the use of technical standards as trade barriers. But Article XX of the GATT allows for general exceptions to the principles of most-favored nation and national treatment:

“No country should be prevented from taking measures necessary to ensure the quality of its exports, or for the protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices, at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade, and are otherwise in accordance with the provisions of this Agreement.” (GATT, 1994).

Members’ obligations following the Uruguay Round are fairly extensive, although there are in many cases no fixed measures for compliance. Members are encouraged to:

- use existing international standards unless there are unusual circumstances;
- participate in formulating new standards where none currently exist;
- publish intent to create standards (where no international standard exists) so other countries have an opportunity to consult and suggest amendments before the standard is applied;

- give higher priority to performance of standards in producing acceptable products than to design or description;
- accept other countries' standards that differ from their own as long as the objectives of their own standards are met;
- give notification of the objective and rationale of new technical standards and allow consultation; and
- give assistance to other members (particularly developing country members) that want to establish technical standards.

In addition, the Technical Barriers to Trade (TBT) agreement in GATT contains a code of good practices for so-called conformity assessment procedures, which include the following:

“Any procedure used, directly or indirectly, to determine that relevant requirements in technical regulations or standards are fulfilled. Conformity assessment procedures include, inter alia, procedures for sampling, testing and inspection; evaluation, verification and assurance of conformity; registration, accreditation and approval as well as their combinations.” (GATT, 1994).

Development and Harmonization of Standards

Codex Alimentarius and Other International Organizations

The SPS agreement specifically names three international institutions that have jurisdiction for establishing international standards. National governments provide official representation in these organizations. The Codex Alimentarius Commission, headquartered in Rome, is the main body establishing sanitary and phytosanitary standards. It began in 1962 with joint sponsorship of the U.N. Food and Agriculture Organization (FAO) and the U.N. World Health Organization (WHO) to establish food safety standards. Other smaller institutions include the International

Office of Epizootics, established in 1924 to handle animal disease standards, and the International Plant Protection Convention, established in 1953 for plant health standards.

The International Standards Organization (ISO) and Comité Européen de Normalization (CEN) are standards bodies operating on a regional or nongovernmental basis that can provide a competitive advantage to companies within the region where the standard is being developed. This is not to say that countries and companies outside of the organizations are being denied a voice in setting standards. The WTO rules call for members who are setting standards to provide opportunities for other countries to be consulted and to be given adequate time to comment before new standards are adopted, and to comply when new standards come into effect.

There remains a potential for trade diversion whether intended or not. For regional standards bodies such as CEN, the argument against regional harmonization as opposed to multilateral harmonization (i.e., through the WTO) is similar to the argument against regional trade liberalization agreements. A regional grouping (e.g., NAFTA, EU, or ASEAN) provides for common standards or mutual recognition within the trading group that may be preferential for members within the group, which means that an advantage is conferred to members and a disadvantage to nonmembers. Any impairment of access for products coming from outside the regional grouping may or may not be intentional, but standards may be set by compromises among the regional group's membership that do not consider the interests of nonmembers. The result may be a standard that requires greater costs of compliance for nonmembers than for members, thereby affecting trade patterns. In principle there is no problem with WTO rules as long as the trade agreement meets certain criteria (primarily, this means that the agreement covers substantially all trade), and that the standards are not set or applied in a discriminatory or arbitrary way. After all, the prime objective of regional trade agreements is to stimulate economic growth by facilitating trade within the region.

ISO 9000: A Voluntary System of Standards

The International Standards Organization is located in Geneva, Switzerland. ISO 9000 is a method of quality assurance by which companies become certified as following recognized best practices. Certification declares to the buyer that the manufacturer has met a high quality standard. In other words, ISO 9000 standards are voluntarily followed practices, not technical standards required by a government. For industry standards, ISO 9000 is a system of quality assurance that can be used for food products, but is applied as well to products of other industries.

Widespread adoption of ISO 9000 standards could be followed by governmental recognition and adoption as minimum standards within a country or region and legally (or effectively) become an import standard, which would then be nondiscriminatory. It could be challenged as being a higher standard than can scientifically be shown as necessary. Bredahl and Zaibet (1994, p.11) conclude that “the momentum clearly seems to be in the direction of ISO adoption and the emergence over time of certification as a necessary condition to do business in the EU food sector.”

Public Policy Issues

The globalization of the processed foods market raises many public policy issues related to product and process standards. The increase in trade and foreign direct investment in processed foods increases public policy interest in standards not only because the commercial base is larger, but also because consumers are more demanding of high-quality, safe products at the least cost. Globalization has increased competition, and the rules are clearer and more enforceable. The completion of the Uruguay Round creates a clearer set of obligations regarding standards and, with the establishment of the Dispute Settlement Body, a stronger procedure for determining whether WTO members' food product standards serve only to support legitimate objectives. The following three public policy topics show the way toward establishing the importance of product and process standards, how and where they are used properly and improperly, and their effect on quantities of

processed foods traded, funds invested internationally in the processed foods industries, and ultimately on food prices.

Technical Standards as Trade Barriers

With clearer rules and a stronger method of dispute resolution, policy needs to be guided by an understanding of the prevalence of food standards acting as a foil for protectionist interests. Accordingly, there is a need to identify countries, products, or firms for which product and process standards may have been used improperly in the past. The process of identifying this problem will reveal where researchers and government officials should focus efforts to achieve the greatest benefit in terms of removing improper product and process standards that impede food trade. By examining the pattern of trade complaints brought to GATT, one should be able to ascertain the importance of product and process standards in trade rule violations and whether their importance is increasing or decreasing in number and as a share of all trade complaints. A further step to assess the use of technical standards as trade barriers would be to pair the records of trade complaints with patterns of FDI and trade in processed foods to determine if there are patterns in countries, products, or firms that would establish the prevalence of problems with standards. Additional information from industry sources could be valuable in identifying commercial concerns about the application of standards that never became formal trade disputes because of the lower likelihood of satisfactory resolution of disputes under the rules in force before the Uruguay Round Agreement.

Harmonization versus Mutual Recognition

Two principles that govern standards in the WTO Technical Barriers to Trade Agreement and the Sanitary and Phytosanitary Standards Agreement are harmonization and equivalence (also known as mutual recognition). These principles are not always congruent. In some cases harmonization, rather than equivalence, is the guiding principle. In others, the reverse is true.

The varied use of the two principles leads to the question of whether it is possible to identify factors—institutional, economic, or political—that lead to the choice of one or the other. For example, Hooker and Caswell (1995) suggest that, for food trade, one should expect mutual recognition for quality standards and harmonization for food safety standards. Perhaps the type of product is an important factor in determining the guiding principle used under WTO. Harmonization may yield the greatest benefit for bulk or intermediate products that do not require significant processing. These products are more likely to be commingled and benefit more from the facilitation of packaging and handling, thereby lowering production or transaction costs. In contrast, harmonization of standards may not realize these benefits for products that have been further processed. Harmonization may impinge on consumer sovereignty by narrowing the spectrum of products offered to the consumer.

Effect of Standards on Trade and FDI

Interviews have suggested that companies looking to enter a foreign market seldom give much consideration to “policies,” including product and process standards, in deciding whether to enter that market via exports or FDI (Vaughan et al.). To discover the importance of product and process standards in the trade versus FDI decision, one empirical approach would be to select cases and attempt to compare the relative costs of product placement associated with various approaches to entering a foreign market. Companies are understandably reluctant to divulge proprietary information about current decisions and operations, but perhaps suitable cases could be identified that would yield insight without compromising the firm’s ongoing operations. This approach would assess the impact of product and process standards on the costs, including the evaluation of risk, of product placement into a foreign market and thereby their influence on the method of entry into a market.

Summary

Following the Uruguay Round, product and process standards for food products are under the spotlight more than in the past. Standardization has proven commercial advantages, yet mutual recognition acknowledges that a single objective can be attained by different methods in different countries. Protectionist interests find other trade barriers falling, leaving standards as one of the few remaining avenues for protection. The dispute settlement mechanism that was strengthened in the Uruguay Round focuses attention on standards by requiring that they have a scientific basis and rest on appropriate risk assessment. International standards have been boosted, and equivalence has become the rule in the absence of international standards.